OIPE IAF22
NOV 19 2007
PATENT & TRADEMARK OFFICE

Confirmation No. 3589

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants:	Wollenberg et al.	Examiner: M. Wallenhorst
Serial No.:	10/699,508	Group: Art Unit 1743
Filing Date:	October 31, 2003	Docket: T-6298C (538-62)
For:	HIGH THROUGHPUT SCREENING METHODS FOR LUBRICATING OIL COMPOSITIONS	Dated: November 16, 2007

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

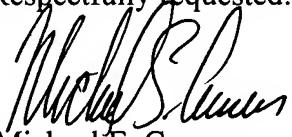
TRANSMITTAL OF REQUEST FOR REHEARING UNDER 37 C.F.R. §41.52

Sir:

Enclosed please find REQUEST FOR REHEARING UNDER 37 C.F.R. §41.52.

Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.17 to Deposit Account No. 50-3591. Also, in the event any additional extensions of time are required, please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-3591. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Respectfully requested.



Michael E. Carmen
Reg. No. 43,533
Attorney for Applicants

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

OIPE IAP22
NOV 19 2007
PATENT & TRADEMARK OFFICE

Confirmation No. 3589

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants:	Wollenberg et al.	Examiner: M. Wallenhorst
Serial No.:	10/699,508	Group: Art Unit 1743
Filing Date:	October 31, 2003	Docket: T-6298C (538-62)
For:	HIGH THROUGHPUT SCREENING METHODS FOR LUBRICATING OIL COMPOSITIONS	Dated: November 16, 2007

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REHEARING UNDER 37 C.F.R. §41.52

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

OIPE IAP22
NOV 19 2007
PATENT & TRADEMARK OFFICE

Confirmation No. 3589

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants:	Wollenberg et al.	Examiner: M. Wallenhorst
Serial No.:	10/699,508	Group: Art Unit 1743
Filing Date:	October 31, 2003	Docket: T-6298C (538-62)
For:	HIGH THROUGHPUT SCREENING METHODS FOR LUBRICATING OIL COMPOSITIONS	Dated: November 16, 2007

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REHEARING UNDER 37 C.F.R. §41.52

Sir:

In response to the decision rendered by the Board of Patent Appeals and Interferences ("Board") mailed September 20, 2007, Appellants respectfully request a rehearing of the decision affirming the rejection under 35 U.S.C. §103 (a) of (1) appealed Claims 1-6, 10 and 15-19 as obvious over Kolosov et al. in view of O'Rear or Gatto; (2) appealed Claim 9 as obvious over Kolosov et al. in view of Perez et al.; (3) appealed Claims 7-8 and 20-21 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of McFarland et al.; (4) appealed Claims 11-14 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Smrcka et al. and (5) appealed Claims 22 and 23 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Garr et al. The following comments are respectfully submitted in order to address the points believed to be misapprehended or overlooked by the Board.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postpaid in an envelope, addressed to the: Commissioner for Patents, Alexandria, VA 22313-1450, Mail Stop Appeal Brief-Patents on November 16, 2007.

Dated: November 16, 2007

Bridget Griffin

A. Appealed Claims 1-6, 10 and 15-19 are non-obvious over Kolosov et al. and O'Rear or Gatto

First, with respect to the following statement regarding appealed Claims 1-6, 10 and 15-19 as obvious over Kolosov et al. in view of O'Rear or Gatto, in the paragraph beginning on line 1 of page 17 of the Board's decision:

> "The Appellants appear to be arguing that the phrase 'under program control' in claim 1 requires an automated step of measuring oxidation stability. However, according to the Appellants' Specification, 'under program control' is defined as meaning that the equipment used to provide the plurality of lubricating oil compositions is automated, **NOT** that the step of measuring oxidation stability is automated. Specification, p. 5, ll. 19-21. For this reason, the Appellants' argument is not persuasive." [Original Emphasis]

and in the paragraph beginning on line 9 of page 18:

> "We find that two aspects of the appellents' invention as recited in claim 15 are automated. First, the equipment used to provide the plurality of lubricating oil compositions is automated. Specification p. 5, ll. 19-21 (defining 'program control'). Second, the means for transferring the oxidation stability data to the computer is automated. Specification, p. 24, ll. 8-10."

Appellants respectfully believe that the following points were misapprehended or overlooked. The entire high throughput method and system to screen lubricating oil composition samples for oxidation stability to provide oxidation stability data for each sample is automated, not individual steps or components thereof as set forth in the Board's Decision. This is clearly set forth in the specification on page 4, lines 11- 14:

> "The *methods* of the present invention advantageously permits the *automatic screening* of many different lubricating oil composition samples in an efficient manner in accordance with adjustable selection criteria *to determine oxidation stability* of the samples." [Emphasis added]

In addition, the specification sets forth on page 26, lines 15-18 one example of a test method and system for screening a lubricating oil composition as follows:

> "While the determination of the deposit formation can be performed manually by visually inspecting the test tube, comparing it with the standard set of tubes, and estimating the degree of deposit formation, *the present method is automated* and preferably employs a light source and a photocell."

As such, the high throughput method and system as claimed certainly require an automated step of measuring oxidation stability. Therefore, contrary to the Board's interpretation that the step of measuring oxidation stability of Claim 1 is not automated, a reading of the specification clearly shows that the entire high throughput method of Claim 1 including the step of measuring oxidation stability is automated. This also holds true with respect to the Board's statement that only two aspects of the system recited in claim 15 are automated. For the reasons discussed above, it is submitted that the entire system is automated and not individual components of the system.

Second, in the paragraph beginning on line 15 of page 18 of the Board's decision:

> "It is of no moment that Gatto and O'Rear do not disclose an automated system within the scope of claim 15. The Examiner merely relies on Gatto and O'Rear to establish that the oxidation stability tests disclosed therein were known to be useful for testing the oxidation stability of lubricating oil compositions. Answer 14, 15. Gatto and O'Rear also establish that one of ordinary skill in the art would have recognized the importance of testing lubricating oil compositions for oxidation stability."

and in the paragraph beginning on line 13 of page 20 through line 2 of page 21:

> "Kolosov does not expressly disclose that the lubricants comprise a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive. However, the record before us establishes that one of ordinary skill in the art would have understood 'additive' to mean any substance incorporated into a base material, usually in a low concentration. See The Condensed Chemical Dictionary at 20; see also O'Rear, paras. [0002] and [0046]; Gatto, para. [0051]. We find that one of ordinary skill in the art would have reasonably expected the lubricant compositions in Kolosov, comprising a lubricant and an additive, to have a major amount of a base oil and a minor amount of an additive.
>
> ... For the reasons set forth above, it is reasonable to conclude that the method of claim 1 and the system of claim 15 would have been obvious to one of ordinary skill in the art in view of the combined teachings Kolosov and O'Rear or Gatto."

Appellants respectfully believe that the following points were misapprehended or overlooked. The teachings of O'Rear and Gatto do not cure the deficiencies of Kolosov et al. First, the

Examiner acknowledged that Kolosov et al. do not disclose measuring oxidation stability of a lubricating oil composition. Second, contrary to the statement by the Board that a lubricant composition would be expected to have a major amount of a base lubricant oil and a minor amount of an additive, Appellants clearly rebutted this argument on page 10 of the Appeal Brief in which it is stated that a lubricating oil composition can be a concentrate that contains *a major amount of a lubricating oil additive* and *a minor amount of base oil of lubricating viscosity* as a diluent for the concentrate, e.g., see Mortier et al., Chemistry and Technology of Lubricants, 2nd Edition, Blackie Academic & Professional, page 88 (1997), a copy of which is attached, which shows that an additive such as an ashless dispersant can be present in a lubricating oil composition concentrate in an amount of 60% together with a base oil. Moreover, Appellants further asserted on page 10 that a lubricant can be a grease, jelly, e.g., K-Y jelly or petroleum jelly, as well as powders, e.g., dry graphite, PTFE, etc., formulated with water. Thus, a lubricating oil composition would not be expected by one of ordinary skill in the art to contain a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive each and every time.

Thus, Kolosov et al. fail to disclose or suggest not only (1) lubricating oil composition samples comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive, but (2) measuring the oxidation stability of each sample to provide oxidation stability data for each sample as generally recited in the high throughput method and system of appealed Claims 1 and 15. Accordingly, one skilled in the art would not even look to the disclosure of Kolosov et al. to modify the method and system disclosed therein and arrive at the presently recited high throughput method and system of appealed Claims 1 and 15.

O'Rear or Gatto do not cure the deficiencies of Kolosov et al. Instead, O'Rear and Gatto merely teach a lubricating oil composition can be tested for oxidation properties via a non-automated test. Thus, one skilled in the art would not even arrive at the presently claimed invention by combining the non-automated test disclosed in O'Rear and Gatto with the method and system of Kolosov et al. which measures rheological properties with any expectation of success. Only by using Appellants' disclosure as a guide has the Examiner been able to piece

together the claimed invention which employs an automatic high throughput method and system to rapidly analyze and screen a diverse number of lubricating oil compositions for oxidation properties.

For the foregoing reasons, Appellants respectfully submit that appealed Claims 1-6, 10 and 15-19 are not obvious over Kolosov et al. in view of O'Rear or Gatto. Thus, appealed Claims 1-6, 10 and 15-19 are allowable.

B. Appealed Claim 9 is non-obvious over Kolosov et al. in view of Perez et al.

With respect to the rejection of appealed Claim 9 as obvious over Kolosov et al. in view of Perez et al., the misapprehended or overlooked deficiencies of Kolosov et al. discussed above apply with equal force to this rejection. Perez et al. do not cure the deficiencies of Kolosov et al. Instead, Perez et al., as with O'Rear and Gotto, disclose two *non-automated* differential scanning calorimetry methods for studying oxidation stability. Thus, as stated above, one skilled in the art would not even arrive at the presently recited method of appealed Claim 1, from which Claim 9 ultimately depends, by combining the non-automated test disclosed in Perez et al. with the method of Kolosov et al. which measures rheological properties with any expectation of success. Only by using Appellants' disclosure as a guide has the Examiner been able to piece together the claimed invention which employs an automatic high throughput method to rapidly analyze and screen a diverse number of lubricating oil compositions for oxidation properties.

For the foregoing reasons, Appellants respectfully submit that appealed Claim 9 is not obvious over Kolosov et al. in view of Perez et al. Thus, appealed Claim 9 is allowable.

C. Appealed Claims 7-8 and 20-21 are non-obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of McFarland et al.

With respect to the rejection of appealed Claims 7-8 and 20-21 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of McFarland et al., the misapprehended or overlooked deficiencies of Kolosov et al., O'Rear and Gatto discussed above with respect to appealed Claims 1 and 15, from which Claims 7-8 and 20-21 ultimately depend, apply with equal force to this rejection. McFarland et al. do not cure the deficiencies of Kolosov et al., O'Rear and Gatto. Specifically, McFarland et al. do not disclose any automated oxidation stability testing of any material. Rather, McFarland et al. simply disclose a method and apparatus for characterizing liquids, dissolved organic or inorganic molecules, covalent network solids, ionic solids and molecular solids utilizing thermal imaging and infrared spectroscopic imaging. Thus, one skilled in the art would not even look to McFarland et al. to arrive at the presently recited method and system set forth in the appealed claims by combining of Kolosov et al., O'Rear or Gatto with McFarland et al. with any expectation of success. Only by using Appellants' disclosure as a guide has the Examiner been able to piece together the claimed invention which employs an automatic high throughput method and system to rapidly analyze and screen a diverse number of lubricating oil compositions for oxidation properties.

For the foregoing reasons, Appellants respectfully submit that appealed Claims 7-8 and 20-21 are not obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of McFarland et al. Thus, appealed Claims 7-8 and 20-21 are allowable.

D. Appealed Claims 11-14 are non-obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Smrcka et al.

With respect to the rejection of appealed Claims 11-14 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Smrcka et al., the misapprehended or overlooked deficiencies of Kolosov et al., O'Rear and Gatto discussed above with respect to appealed Claim 1, from which Claims 11-14 ultimately depend, apply with equal force to this rejection. Smrcka et al. do not cure the deficiencies of Kolosov et al., O'Rear and Gatto. Specifically, Smrcka et al. do not disclose any automated oxidation stability testing of any material. Rather, Smrcka et al. simply disclose storing test results in a data carrier. Thus, one skilled in the art would not even

look to Smrcka et al. to arrive at the presently recited method set forth in appealed Claim 1, from which Claims 11-14 ultimately depend, by combining of Kolosov et al., O'Rear or Gatto with Smrcka et al. with any expectation of success. Only by using Appellants' disclosure as a guide has the Examiner been able to piece together the claimed invention which employs an automatic high throughput method to rapidly analyze and screen a diverse number of lubricating oil compositions for oxidation properties.

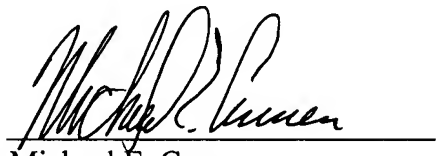
For the foregoing reasons, Appellants respectfully submit that appealed Claims 11-14 are not obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Smrcka et al. Thus, appealed Claims 11-14 are allowable.

E. Appealed Claims 22 and 23 are non-obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Garr et al.

With respect to the rejection of appealed Claims 22 and 23 as obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Garr et al., the misapprehended or overlooked deficiencies of Kolosov et al., O'Rear and Gatto discussed above with respect to appealed Claim 15, from which Claims 22 and 23 ultimately depend, apply with equal force to this rejection. Garr et al. do not cure the deficiencies of Kolosov et al., O'Rear and Gatto. Specifically, Garr et al. do not disclose any automated oxidation stability testing of any material. Rather, Garr et al. simply disclose employing a bar code to identify individual containers. Thus, one skilled in the art would not even look to Garr et al. to arrive at the presently recited system of appealed Claim 15, from which Claims 22 and 23 ultimately depend, by combining of Kolosov et al., O'Rear or Gatto with Garr et al. with any expectation of success. Only by using Appellants' disclosure as a guide has the Examiner been able to piece together the claimed invention which employs an automatic high throughput method to rapidly analyze and screen a diverse number of lubricating oil compositions for oxidation properties.

For the foregoing reasons, Appellants respectfully submit that appealed Claims 22 and 23 are not obvious over Kolosov et al. in view of O'Rear or Gatto and further in view of Garr et al. Thus, appealed Claims 22 and 23 are allowable.

Dated: November 16, 2007

By: 

Michael E. Carmen
Reg. No. 43,533
Attorney for Appellants

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

Attachment

Chemistry and Technology of Lubricants

Second edition

Edited by

R.M. MORTIER
Technology Development Manager
Castrol International Technology Centre
UK

and

S.T. ORSZULIK
Autotype International Limited
UK

BLACKIE ACADEMIC & PROFESSIONAL
An Imprint of Chapman & Hall
London · Weinheim · New York · Tokyo · Melbourne · Madras

Published by Blackie Academic and Professional, an imprint of Chapman & Hall, 2–6 Boundary Row, London SE1 8HN, UK

Chapman & Hall, 2–6 Boundary Row, London SE1 8HN, UK

Chapman & Hall GmbH, Pappelallee 3, 69469 Weinheim, Germany

Chapman & Hall USA, 115 Fifth Avenue, New York, NY 10003, USA

Chapman & Hall Japan, ITP-Japan, Kyowa Building, 3F, 2-2-1 Hirakawacho, Chiyoda-ku, Tokyo 102, Japan

DA Book (Aust.) Pty Ltd, 648 Whitehorse Road, Mitcham 3132, Victoria, Australia

Chapman & Hall India, R. Seshadri, 32 Second Main Road, CIT East, Madras 600 035, India

First edition 1992

Reprinted 1993, 1994

Second edition 1997

© 1992, 1997 Chapman & Hall

Typeset in Great Britain by Acorn Bookwork, Salisbury, Wiltshire

Printed in Great Britain by St Edmundsbury Press, Suffolk

ISBN 0 7514 0246 X

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the UK Copyright Designs and Patents Act, 1988, this publication may not be reproduced, stored, or transmitted, in any form or by any means, without the prior permission in writing of the publishers, or in the case of reprographic reproduction only in accordance with the terms of the licences issued by the Copyright Licensing Agency in the UK, or in accordance with the terms of licences issued by the appropriate Reproduction Rights Organization outside the UK. Enquiries concerning reproduction outside the terms stated here should be sent to the publishers at the London address printed on this page.

The publisher makes no representation, express or implied, with regard to the accuracy of the information contained in this book and cannot accept any legal responsibility or liability for any errors or omissions that may be made.

A catalogue record for this book is available from the British Library

Library of Congress Catalog Card Number: 96-84183

presence of water in gasoline engine low-temperature stop-and-go operation accelerates the contaminant drop-out process. Dispersants are a vital component in gasoline engine oils and are also used to advantage in diesel engine oils to suspend harmful soot contaminants in order to provide longer engine life between overhauls. Diesel engine oil temperatures are generally sufficiently high enough to vaporize water from the oil.

Ashless dispersants are designed to have their polar chemical heads attached to rather large hydrocarbon groups. As shown in Figure 3.11 these polar heads interact with sludge. The hydrocarbon groups provide the solubilizing action which maintains the potentially harmful debris in suspension in the oil. By use of an engine oil well-fortified with a dispersant additive, as well as by practicing engine manufacturers' oil drain recommendations, virtually all of the harmful deposit-forming debris is removed from the engine when the oil is periodically drained.

There are four different types of ashless dispersants: (1) succinimides, (2) succinate esters, (3) Mannich types, and (4) phosphorus types. As with detergents, dispersants are used in a variety of automotive and industrial oils, whilst combinations of dispersant types are often used in lubricant formulations. This discussion will emphasize dispersant use in engine oils.

Most dispersants currently in use are prepared from polyisobutylenes of 1000 to 10 000 molecular weight. Their polar functionality arises from amino and/or hydroxyl (alcohol) groups. The connecting groups, in most cases, are either phenols or succinic acids. The products with succinic acid groups are called alkenyl succinimides and succinate esters. The products from phenols are alkyl hydroxybenzyl polyamines (also called Mannich dispersants because of the name of the German chemist who discovered the method of preparation). These materials are generally processed as 40 to 60% concentrates in base oil.

Both the succinimides and the succinate esters are derived from the same chemical intermediate. The preparation of this intermediate is shown in Figure 3.12. Polyisobutylene is reacted with maleic anhydride to form polyisobutenyl succinic anhydride. This material is often referred to as 'PIBSA'. In the formation of succinimides, the PIBSA is reacted with a polyamine to form a structurally complex mixture which can contain imide, amide, imidazoline, diamide, and amine salt.

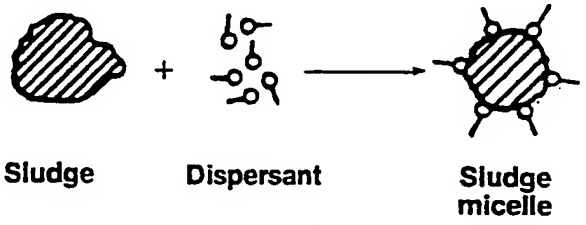


Figure 3.11 Sludge dispersion.